What is claimed is:

1. A color correction method comprising:

obtaining reference outputs from an image sensor using a color image array, said reference outputs being indicative of outputs for a plurality of known reference colors, said plurality including at least 3 primary colors, and at least 2 other colors other than said primary colors;

determining an error measure between said outputs and what would be expected for each of said outputs;

obtaining an color correction matrix that minimizes said error measure for each of said plurality of colors; and

using said color correction matrix to simultaneously optimize the system for each of said plurality of colors in said color reference chart and to obtain a color-corrected image.

2. A method as in claim 1 further comprising weighting certain ones of the plurality of colors to be more corrected than other ones of the colors.

3. A method as in claim 1 wherein said comparing comprises obtaining, for each of the plurality of colors,

$$(Gn' \text{ [what expect to see] } - G_C \text{ [actual] })^2 = G_E$$

$$(Rn' - R_C)^2 = R_E$$

$$(Bn' - B_C)^2 = B_E$$

and minimizing G_E, R_E, and B_E for each of the plurality of colors.

4. A method as in claim 3 wherein there are at least 7 colors.

5. A method as in claim 3 wherein there are 24 colors.

6. An image sensor apparatus, comprising:

an image sensor device, operating using a color filter array which provides color filtering such that each pixel must be interpolated to determine all color components that actually impinge on an area of said pixel;

an image interpolater, operating according to a color correction matrix, said color correction matrix being adjusted according to at least 3 primary colors, and at least two additional colors other than said primary color.

7. An apparatus as in claim 6 wherein said color correction matrix is adjusted according to at least 3 primary

colors, white, and at least 3 colors other than said 3 primary colors and white.

8. A device as in claim 6 wherein said adjustment is according to a total of 24 colors.

9. A system as in claim 6 wherein said operation operates according to

$$(Gn' \text{ [what expect to see]} - G_C \text{ [actual]})^2 = G_E$$

$$(Rn' - R_C)^2 = R_E$$

$$(Bn' - B_C)^2 = B_E$$

10. A system according to claim 6 wherein said color correction matrix has some colors weighted more than others of the colors.

11. A system as in claim 10 wherein red, green, and blue are weighted higher than dull colors such as brown.

12. A system as in claim 6 wherein said color correction matrix is adjusted according to all colors of a chromatacity chart.

13. A method of correcting an image from an image sensor, comprising:

dividing the image sensor into a plurality of pixels;

placing color separators over said plurality of pixels, such that each pixel receives incoming light that is filtered to emphasize one color component;

obtaining a correction matrix for said pixels, said correction matrix being one which takes into account correction of incoming radiation for at least 3 primary colors, and 2 other colors other than said primary colors.

14. A method as in claim 13 wherein said other colors are weighted so that said correction matrix corrects for some of said colors more than for others of said colors.